Claims

1. A method for resource allocation management for an interactive session on a grid computing system, comprising:

receiving a user request for an interactive session;

identifying any application programs needed to be launched in said interactive session;

determining resource requirements for said interactive session including processor, network bandwidth, executables and files requirements;

generating a contract for the interactive session specifying resource allocations and authorizations; and

allocating resources for the interactive session in accordance with the contract.

2. The method of claim 1, wherein:

the step of identifying applications to be launched in the interactive session includes consulting a user directory to identify applications which the user is authorized to use.

3. The method of claim 1, wherein:

the step of determining resource requirements includes consulting one or more application profile files which provide information concerning resource requirements for individual applications.

4. The method of claim 1, wherein:

the step of determining resource requirements includes identifying a user class to which the user belongs and consulting one or more user class authorization policy files to determine resource allocation policies for the user's user class.

5. The method of claim 1, wherein:

the step of generating said contract includes generating an authorization policy and a service level agreement.

6. The method of claim 1, further comprising:

monitoring the interactive session to ensure compliance with the terms of the contract.

5   7. The method of claim 1, wherein:

the step of allocating resources for the interactive session is performed by a grid scheduler which receives the user request and the contract.

8. A system for managing resource allocation for an interactive session

10   on a grid computing system, the system comprising:

one or more processors;

one or more memories coupled to the one or more processors; and

program instructions stored in the one or more memories, the one

15   or more processors for executing program instructions including:

receiving a user request for the interactive session;

identifying applications to be launched in the interactive session;

determining resource requirements for the interactive session including processor, network bandwidth, executables and files

20   requirements;

generating a contract for the interactive session specifying resource allocations and authorizations; and

allocating resources for the interactive session in accordance with the contract.

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9. The system of claim 8, further comprising:

a user directory which includes for each user a list of applications which the user is authorized to use.

30   10. The system of claim 8, further comprising:

an application profiles repository for providing information concerning resource requirements for individual applications.

11. The system of claim 8, further comprising:

a user class authorization policy repository for providing resource allocation policies for different user classes.

5   12. The system of claim 8, further comprising:

a grid scheduler which receives the user request and the contract and performs the step of allocating resources for the interactive session.

15. A system for managing resource allocation for an interactive session

10   on a grid computing system, comprising:

a distributed resource management node, the distributed resource management node including a distributed resource management interface and a grid scheduler, the grid scheduler configured to receive a user request and output an admission control decision;

15   a contract generation engine coupled to the distributed resource management node, the contract generation engine configured to determine resource requirements for the interactive session, and generate a contract specifying resource allocations and authorizations; and a contract repository configured to store the contract.

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16. The system of claim 15, further comprising:

a user directory which includes for each user a list of applications which the user is authorized to use.

25   17. The system of claim 15, further comprising:

an application profiles repository, for providing resource requirements information for individual applications.

18. The system of claim 15,, further comprising:

30   a user class authorization policy repository for providing resource allocation policies for different user classes.